

# REPLACEMENT SHEET

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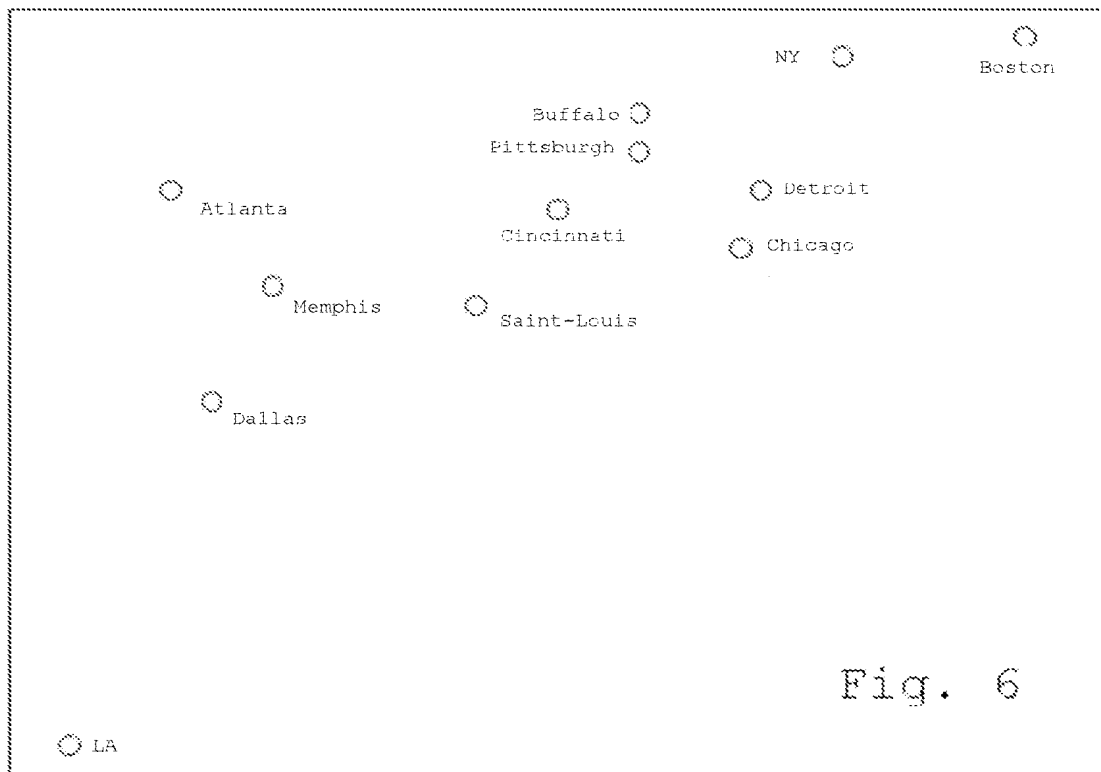
## Example (2)

	LA	NY	BOSTON	DETROIT	BUFFALO	PITTSBURG	CHICAGO	SAINT_LOUIS	CINCINNATI	DALLAS	ATLANTA	MEMPHIS
LA	0											
NY	5600	0										
BOSTON	6109	509	0									
DETROIT	4582	1145	1527	0								
BUFFALO	5091	764	1018	509	0							
PITTSBURG	4836	764	1145	509	382	0						
CHICAGO	4073	1655	2036	509	1018	891	0					
SAINT_LOUIS	3564	2036	2418	1018	1527	1273	636	0				
CINCINNATI	4327	1273	1655	382	764	509	509	764	0			
DALLAS	2800	2927	3436	2036	2545	2291	1655	1018	1782	0		
ATLANTA	4327	1527	2036	1145	1400	1018	1145	1018	764	1527	0	
MEMPHIS	3564	2164	2545	1273	1782	1400	1018	382	891	891	764	0

Flight Distances in a geographic space between 12 USA Cities (in miles)  
Every air route has three types of alteration in a 2D Euclidean space:

- 1) A longitudinal alteration
- 2) An altitude alteration:
- 3) A structural alteration

Fig. 5



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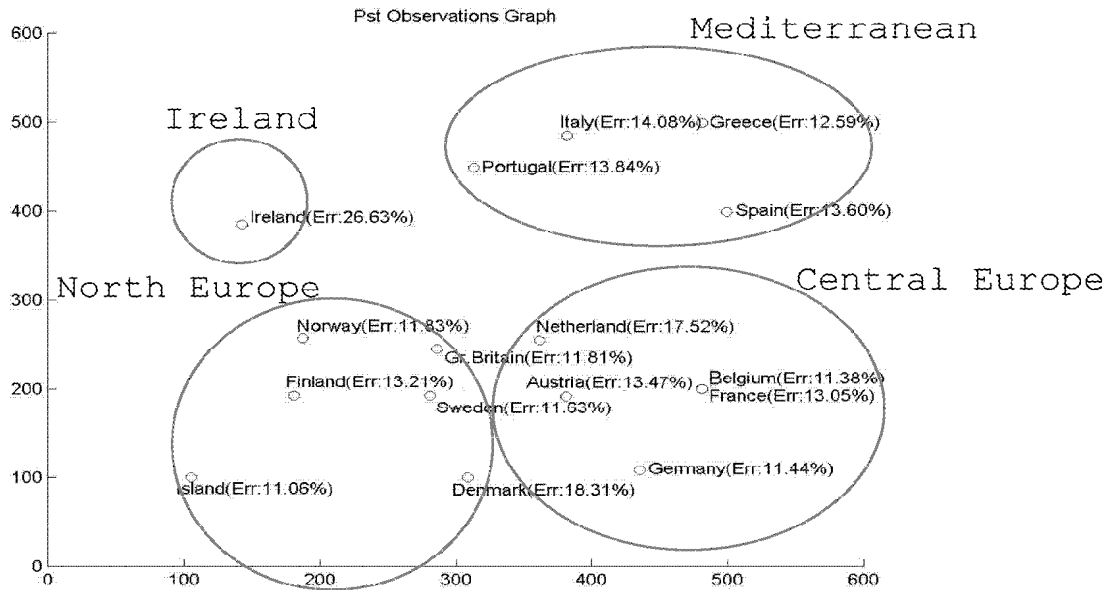


Fig. 8

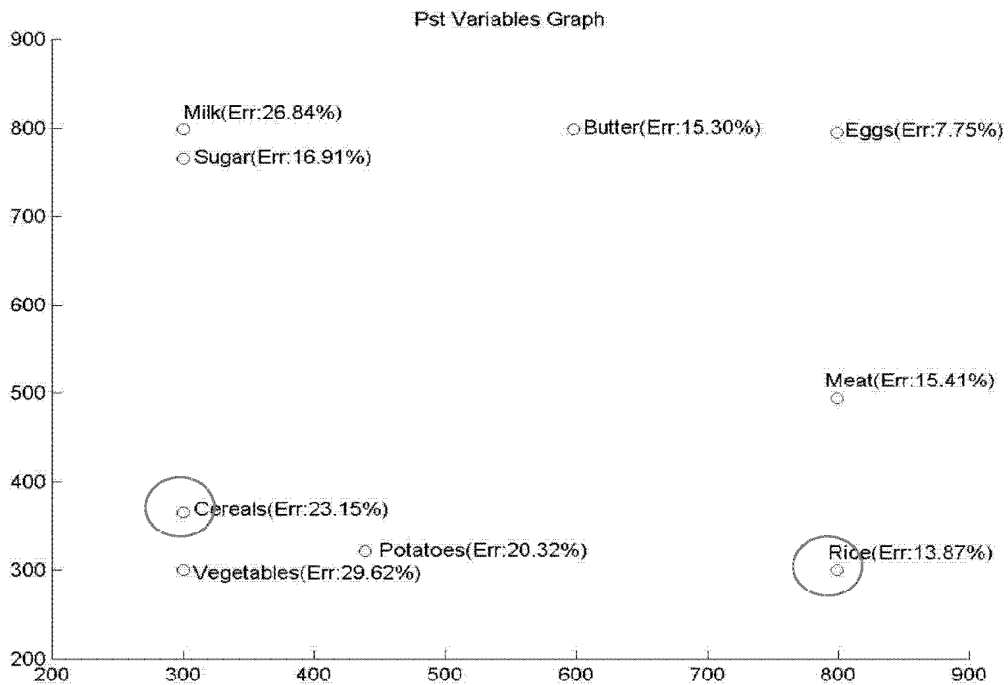


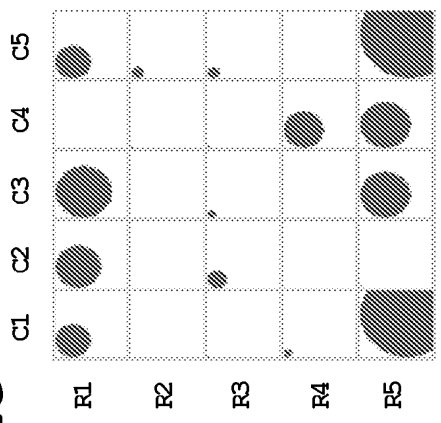
Fig. 9

# Explorative hypothesis of Natural

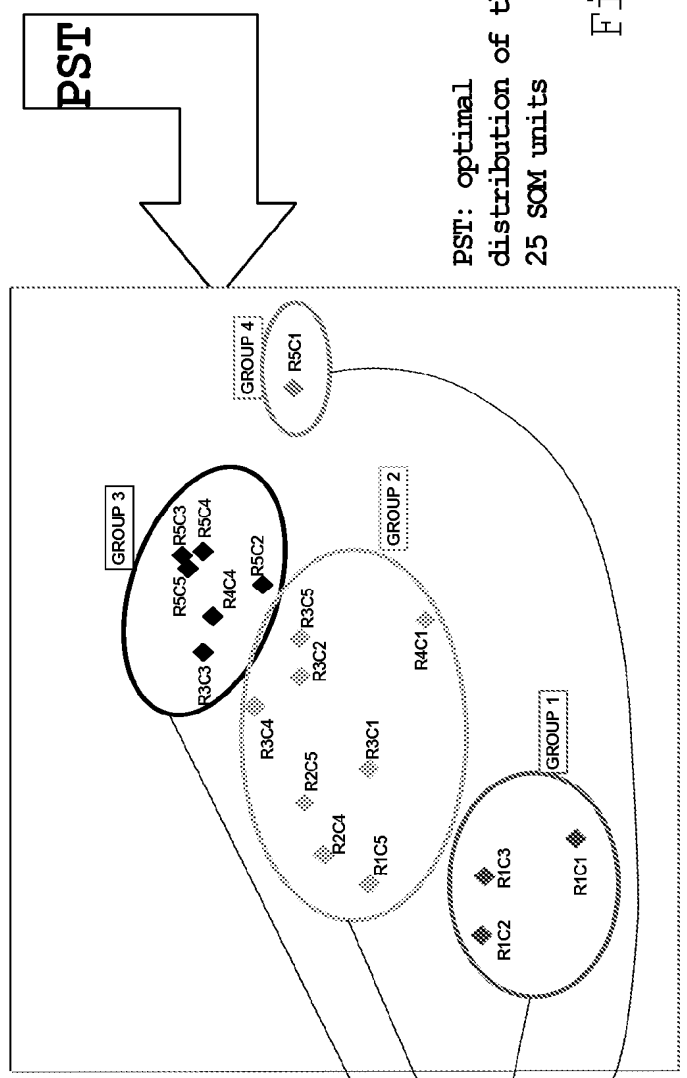
## Clustering : Procedure

Variables
Age_last_exam
Age_death
Education_Years
Walk
Dress
Stand
Toilet
Eat_Drink
WRCL
CNPR
BOSTON
VRBF
MMSE
Apolipoprotein_E4
Score_Athero
TC-NeoCortex
TC-Hippocampus
PC-NeoCortex
PC-Hippocampus

Self-Organizing Maps (SOM)



Distribution of Subjects  
in a SOM Map (25 units)



Codebooks  
Prototype:  
average of all  
codebooks that  
takes part of each  
group

PST

PST: optimal  
distribution of the  
25 SOM units

Fig. 13

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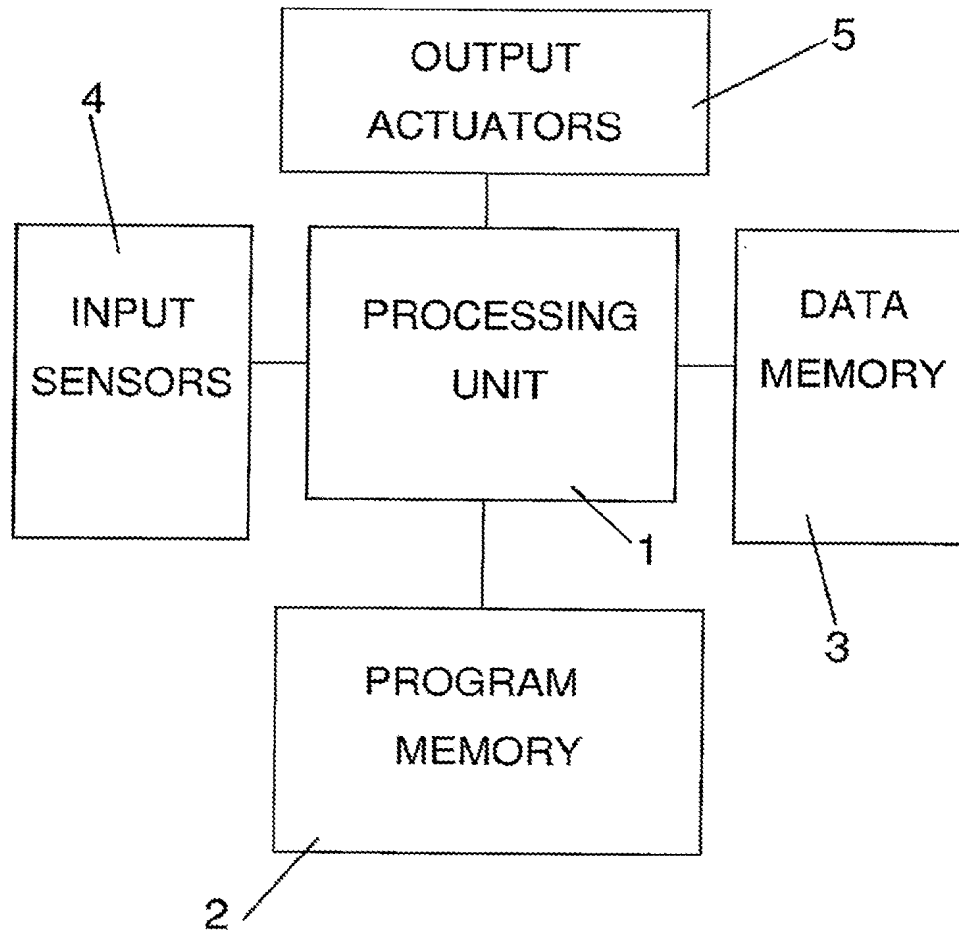


Fig. 15

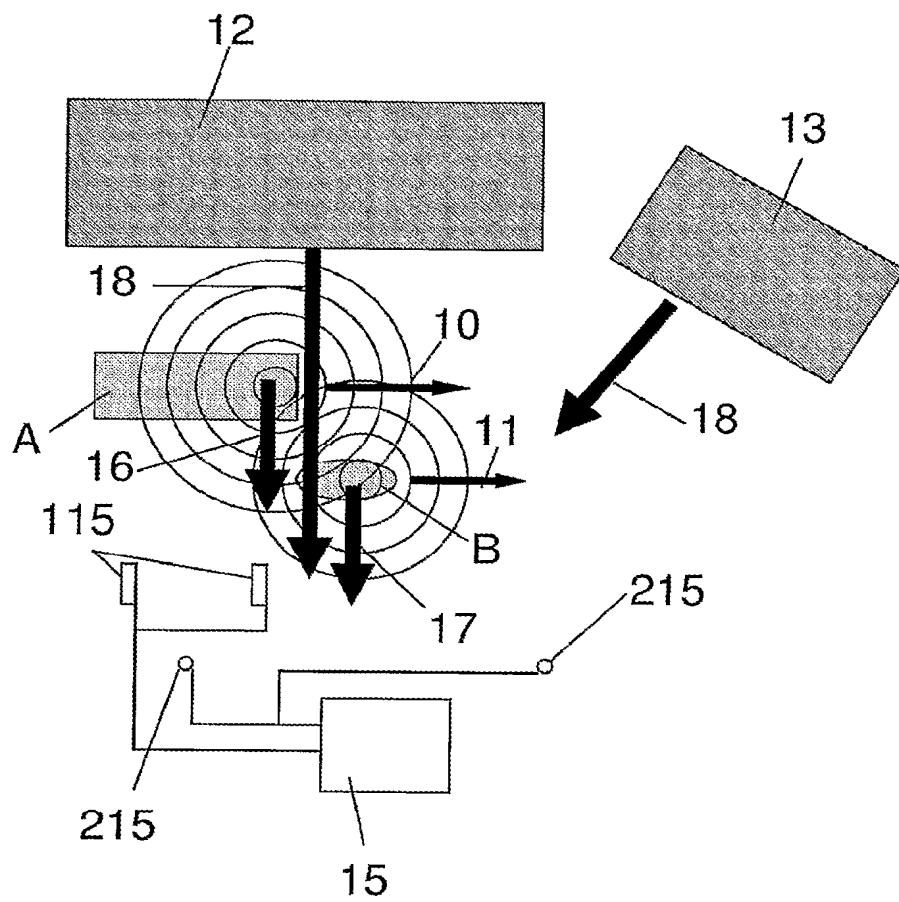


Fig. 16

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Distances between atoms ((-1) indicates lacking information about distances)

	At1	At2	At3	At4	At5	At6	At7	At8	At9	At10	At11	At12	At13	At14	At15	At16	At17	At18	At19	At20	At21	At22	At23	At24	At25
At1	0	-1	-1	480	-1	-1	-1	-1	-1	-1	-1	220	407	-1	-1	-1	688	-1	-1	-1	636	-1	-1	-1	-1
At2	-1	0	-1	-1	265	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	307	188	-1	-1	-1	-1	-1	-1	-1	345
At3	-1	-1	0	-1	474	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	400	654	-1	-1	572	-1
At4	480	-1	-1	0	238	-1	-1	-1	-1	-1	-1	670	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	350	-1
At5	-1	265	474	238	0	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
At6	-1	-1	-1	-1	-1	0	-1	247	-1	-1	-1	-1	528	-1	-1	-1	-1	-1	-1	341	-1	-1	-1	-1	179
At7	-1	-1	-1	-1	-1	-1	0	168	-1	-1	-1	-1	-1	-1	144	-1	567	-1	-1	-1	194	376	-1	-1	-1
At8	-1	-1	-1	-1	-1	-1	247	168	0	-1	-1	-1	-1	222	-1	-1	-1	418	-1	-1	-1	-1	-1	-1	-1
At9	-1	-1	-1	-1	-1	-1	-1	-1	0	-1	-1	-1	160	-1	79	-1	-1	-1	-1	-1	-1	-1	637	-1	-1
At10	-1	-1	-1	-1	-1	-1	-1	-1	-1	0	289	-1	463	-1	-1	-1	-1	-1	-1	320	123	-1	236	-1	-1
At11	-1	-1	-1	-1	-1	-1	-1	-1	-1	289	0	-1	-1	-1	-1	-1	-1	692	-1	-1	-1	-1	-1	-1	218
At12	220	-1	-1	670	-1	-1	-1	-1	-1	-1	-1	0	-1	-1	515	-1	695	-1	-1	-1	-1	-1	-1	-1	-1
At13	407	-1	-1	-1	-1	528	-1	-1	160	463	-1	-1	0	-1	286	-1	-1	-1	383	-1	-1	-1	-1	-1	-1
At14	-1	-1	-1	-1	-1	-1	144	222	-1	-1	-1	-1	-1	0	220	548	-1	-1	-1	-1	-1	-1	-1	-1	-1
At15	-1	-1	-1	-1	-1	-1	-1	-1	79	-1	-1	-1	-1	515	286	220	0	-1	-1	-1	-1	-1	-1	-1	-1
At16	-1	307	-1	-1	-1	-1	567	-1	-1	-1	-1	-1	-1	548	-1	0	-1	-1	-1	521	-1	-1	913	-1	-1
At17	688	188	-1	-1	-1	-1	-1	-1	-1	-1	-1	692	-1	-1	-1	-1	716	0	-1	543	-1	-1	-1	-1	-1
At18	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	695	-1	-1	-1	-1	-1	543	-1	0	250	-1	-1	614	564
At19	-1	-1	-1	-1	-1	-1	-1	418	-1	-1	-1	-1	383	-1	-1	-1	-1	-1	-1	250	0	-1	-1	-1	-1
At20	-1	-1	400	-1	-1	-1	194	-1	-1	123	-1	-1	-1	-1	-1	521	-1	-1	-1	-1	-1	-1	-1	-1	-1
At21	636	-1	554	-1	-1	-1	376	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0	-1	353	-1	-1
At22	-1	-1	-1	-1	-1	-1	-1	-1	637	236	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0	403	-1	-1
At23	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	913	-1	-1	614	-1	353	403	0	-1	-1
At24	-1	-1	572	360	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	584	-1	-1	-1	-1	0	-1
At25	-1	345	-1	-1	-1	-1	179	-1	-1	-1	218	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0

Fig. 17

TWO DIMENSIONAL MAP

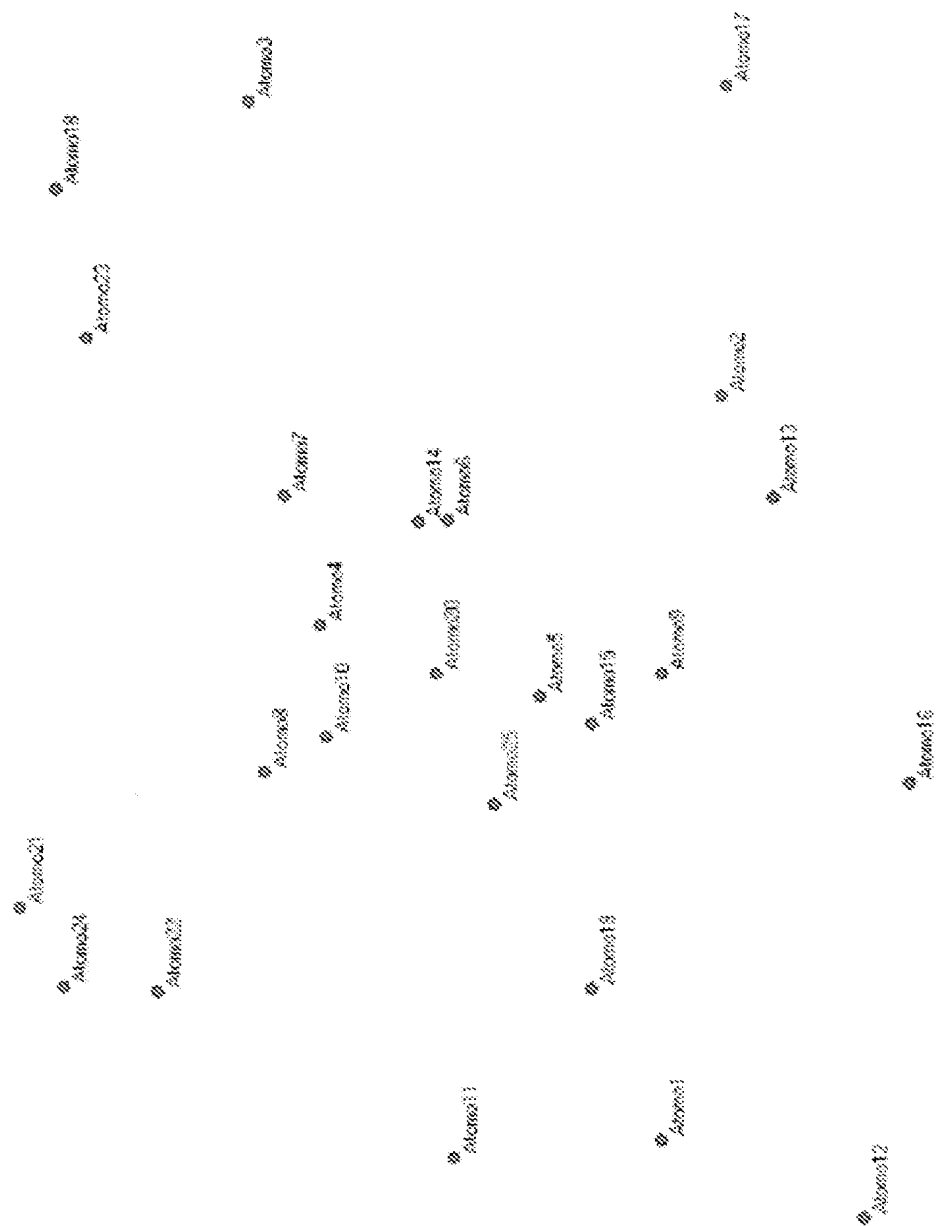


Fig. 18

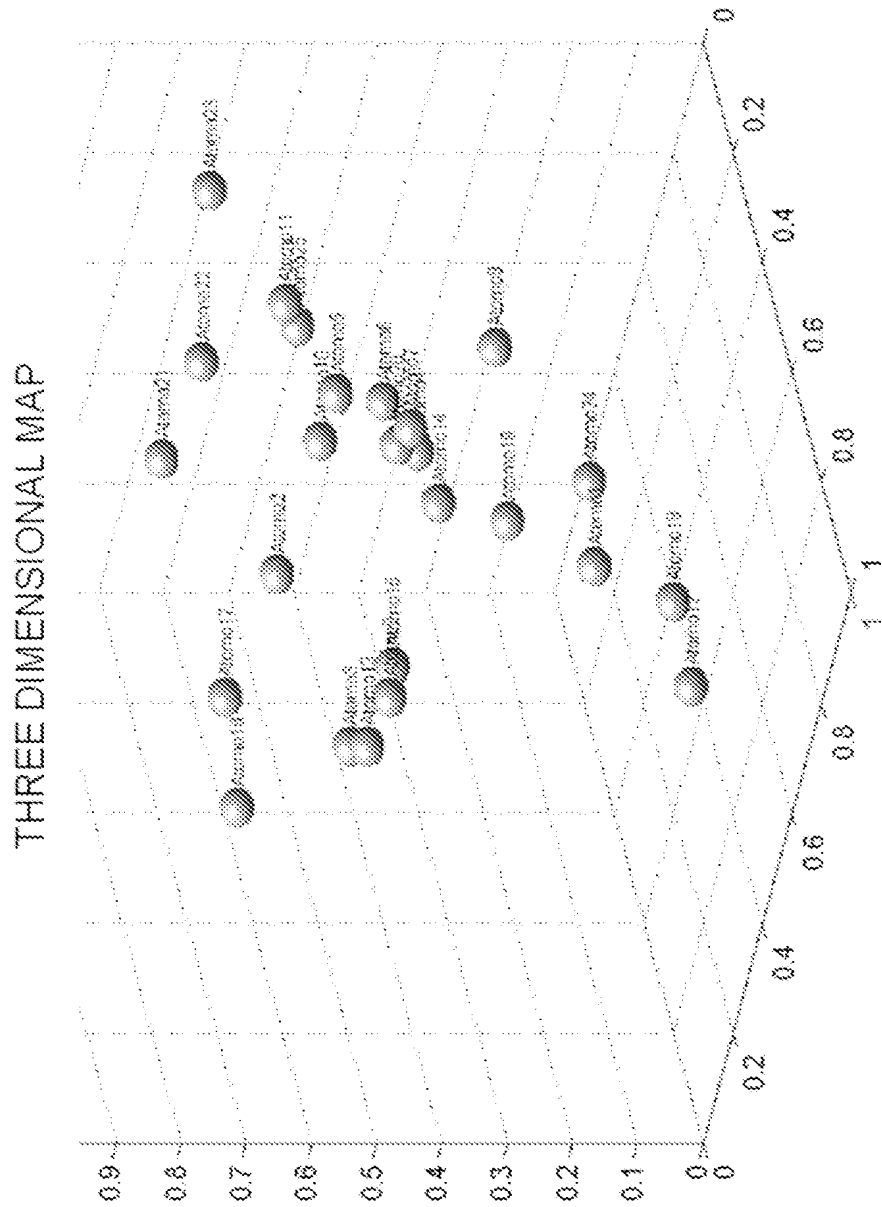


Fig. 19